

ABSTRACT

A low-cost ferritic steel sheet possessing not only formability enabling application to complexly configured automobile exhaust gas passage components but also high-temperature strength, high-temperature oxidation resistance and low-temperature toughness as good as or superior to existing ferritic steels, which ferritic steel sheet comprises, in mass percent, C : not more than 0.02%, Si : 0.7 – 1.1%, Mn : not more than 0.8%, Ni : not more than 0.5%, Cr : 8.0 to less than 11.0%, N : not more than 0.02%, Nb : 0.10 – 0.50%, Ti : 0.07 – 0.25%, Cu : 0.02 – 0.5%, B : 0.0005 – 0.02%, V : 0 (no addition) – 0.20%, one or both of Ca and Mg : 0 (no addition) – 0.01% in total, one or more elements among Y and rare earth elements : 0 (no addition) – 0.20% in total, and the balance of Fe and unavoidable impurities, and satisfies $3 \text{ Cr} + 40 \text{ Si} \geq 61$, $\text{Cr} + 10 \text{ Si} \leq 21$, and $420 \text{ C} - 11.5 \text{ Si} + 7 \text{ Mn} + 23 \text{ Ni} - 11.5 \text{ Cr} - 12 \text{ Mo} + 9 \text{ Cu} - 49 \text{ Ti} - 25 (\text{Nb} + \text{V}) - 52 \text{ Al} + 470 \text{ N} + 189 \leq 70$.